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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/576,772	05/23/2000	Martin E. Fermann	A7696	4224

7590 12/04/2003  
Sughrue Mion Zinn Macpeak & Seas PLLC  
2100 Pennsylvania Avenue NW  
Washington, DC 20037-3212

EXAMINER

MENEFEE, JAMES A

ART UNIT	PAPER NUMBER
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2828

DATE MAILED: 12/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/576,772

Applicant(s)

FERMANN ET AL.

Examiner

James A. Menefee

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 September 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-60 and 62-74 is/are pending in the application.
- 4a) Of the above claim(s) 30-57 and 62-74 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 58-60 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.



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**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_. 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

In response to the amendment 9/5/2003, claim 61 is cancelled. Claims 1-60 and 62-74 are pending.

### ***Election/Restrictions***

Claims 30-43 and 69-70 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Claims 44-57, 62-68, and 71-74 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention. Election was made **without** traverse in Paper No. 6. Thus, in total claims 30-57 and 62-74 are withdrawn from consideration.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 59-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Koplow et al. (US 6,496,301). Koplow discloses a source of seed pulses, a fiber amplifier that inputs and amplifies the seed pulses and outputs amplified pulses, and the pulses within and output by the fiber amplifier are parabolic.

Claims 59-60 are rejected under 35 U.S.C. 102(e) as being anticipated by Fermann et al. (US 5,880,877). Fermann discloses a source of seed pulses, a fiber amplifier that inputs and amplifies the seed pulses and outputs amplified pulses, and the pulses within and output by the fiber amplifier are parabolic.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-29 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fermann et al. (US 5,880,877). Fermann discloses the claimed invention as follows:

Regarding claim 1, Ferman discloses a laser system comprising a seed source generating pulses which have a pulse width between 50 fs and 1 ns. The bandwidth is necessarily greater than 0.3 nm. There is a fiber amplifier for broad bandwidth pulses and a pump for providing energy to the amplifier. It is not disclosed that the seed source operates at 1-1.15 microns. It is well known that seed sources may operate at such wavelengths. Further, Fermann discloses that it was known in the art that injection seeding at such wavelengths was beneficial. It would have been obvious to one skilled in the art at the time of the invention to use a seed source having such a wavelength as a matter of obvious engineering design choice, and because the prior art previously taught it as beneficial, as was well known.

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Regarding claim 2, Fermann discloses that the seed source may comprise a fiber laser, a Raman shifter, and an nonlinear frequency doubling crystal.

Regarding claims 3 and 5, the Raman shifter of Fermann will perform as claimed provided the seed source operates as deemed obvious above.

Regarding claim 4, the wavelength tuning curve is inherently below the center wavelength of the Raman shifter.

Regarding claims 6-8, 17-18, 22-23, 26-27, the particular materials of the various components are not disclosed. But such materials are known in the art to be used with such components. It would have been obvious to one having ordinary skill in the art at the time the invention was made to , since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

Regarding claims 9-16 and 58, it is not disclosed that the seed source is passively modelocked. Passive modelocking of fiber lasers is well known in the art. It would have been obvious to one skilled in the art at the time of the invention to use a passively modelocked seed source in order to produce very narrow pulses, as is well known. Further, the various materials claimed for the components are deemed obvious for the same reason as in the rejection of claims 6-8 above.

Regarding claim 19, from the Figures the pulses appear to be generally parabolic.

Regarding claim 20, the fiber amplifier is less than 1 km.

Regarding claim 21, an optical delivery fiber is coupled to the output of the fiber amplifier.

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Regarding claims 24-25 and 28, Fermann discloses pulse stretchers and compressors may be included in such systems.

Regarding claim 29, the seed source is modulated.

***Response to Arguments***

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James A. Menefee whose telephone number is (703) 605-4367. The examiner can normally be reached on M-F 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9318.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.



JM  
November 19, 2003



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